

CLAIMS

1. An LED illumination system, comprising:

a) an LED module in which

5 a substrate,

a heat conducting layer provided on the substrate and made of an insulating material,

a conductive layer provided on the heat conducting layer and having a predetermined pattern,

10 a light emitting diode chip provided in a predetermined position on the conductive layer,

a connector part having a module thermally contacting portion for conveying heat from the heat conducting layer and

a power supplying terminal provided in an end portion of said substrate,

15 are provided; and

b) a socket for supporting said connector part, in which

a socket thermally contacting portion having a surface contact with said module thermally contacting portion, and

a terminal connected to the power supplying terminal of said connector part,

20 are provided.

2. The LED illumination system according to claim 1, wherein said heat conducting layer is made of diamond, diamond-like carbon or carbon nanotubes.

25 3. The LED illumination system according to claim 1 or 2, wherein a reflector

for reflecting light from a light emitting diode and releasing heat from the socket to the surrounding air is provided.

4. The LED illumination system according to claim 3, wherein the substrate of
5 the LED module makes contact with said reflector.

5. The LED illumination system according to one of claims 1 to 4, wherein a temperature sensor is provided in said LED module.

10 6. The LED illumination system according to claim 5, wherein a control part for controlling the power supplied to an LED chip in response to a signal that is received from said temperature sensor is provided.

7. An LED module, comprising:

15 a) a substrate;

b) a heat conducting layer provided on said substrate and made of an insulating material;

c) a conductive layer provided on said heat conducting layer and having a predetermined pattern;

20 d) a light emitting diode chip provided in a predetermined position on said conductive layer; and

e) a connector part having a module thermally contacting portion for conveying heat from the substrate and the heat conducting layer and a power supply terminal, provided in an end portion of said substrate.

8. The LED module according to claim 7, wherein said heat conducting layer is made of diamond, diamond-like carbon or carbon nanotubes.

9. The LED module according to claim 7 or 8, wherein a temperature sensor is
5 provided.

10. A socket for an LED module, which is a socket for supporting the connector part of the LED module according to one of claims 7 to 9, comprising: a socket thermally contacting portion for making a surface contact with the module thermally contacting
10 portion of the connector part; and a terminal connected to the power supply terminal of said connector part.

11. The socket for an LED module according to claim 10, wherein a heat releasing part for releasing heat to the surrounding air is provided around the socket.